

**IN THE SPECIFICATION:**

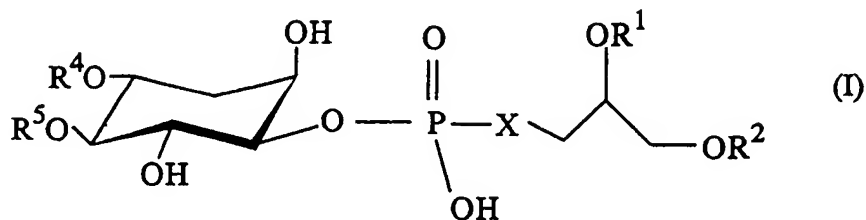
On page 1, 1st paragraph, line 9, titled "RELATED APPLICATIONS":

**RELATED APPLICATIONS**

This application claims priority to, and is a continuation of, the co-pending U.S. patent application number 09/879,765 filed June 12, 2001, which is a continuation-in-part of application U.S. Serial No. 09/339,948 filed June 25, 1999, now Patent No. 6,245,754, which claimed the benefit of priority from U.S. Provisional Patent Application Serial No. 60/090,877 filed on June 26, 1998, now U.S. Patent No. 6,245,754; this application claims the benefit of U.S. Provisional Application Serial No. 60/223,421 filed on August 7, 2000, and U.S. Provisional Application No. 60,223,724 filed on August 8, 2000, and U.S. Provisional Application No. 60,235,269 filed on September 26, 2000, and U.S. Provisional Application No. 60,235,270 filed on September 26, 2000.

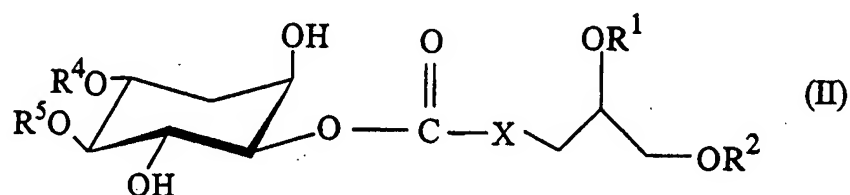
**Pending paragraph beginning on Page 4, line 10:**

It is still a more specific object of the invention to provide compounds having the formulae (I) and (II) set forth below:



wherein X is O or CH<sub>2</sub>; R<sup>1</sup> and R<sup>2</sup> are individually, (C<sub>1</sub>-C<sub>25</sub>) alkyl, (C<sub>6</sub>-C<sub>10</sub>) aryl, (C<sub>3</sub>-C<sub>8</sub>) cycloalkyl, (C<sub>2</sub>-C<sub>22</sub>) alkenyl, (C<sub>5</sub>-C<sub>8</sub>) cycloalkenyl, (C<sub>7</sub>-C<sub>32</sub>) aralkyl, (C<sub>7</sub>-C<sub>32</sub>) alkylaryl, (C<sub>9</sub>-C<sub>32</sub>) aralkenyl, (C<sub>9</sub>-C<sub>32</sub>) alkenylaryl or C(O)R<sup>3</sup>; and R<sup>3</sup> is (C<sub>1</sub>-C<sub>25</sub>) alkyl, (C<sub>6</sub>-C<sub>10</sub>) aryl, (C<sub>3</sub>-C<sub>8</sub>)

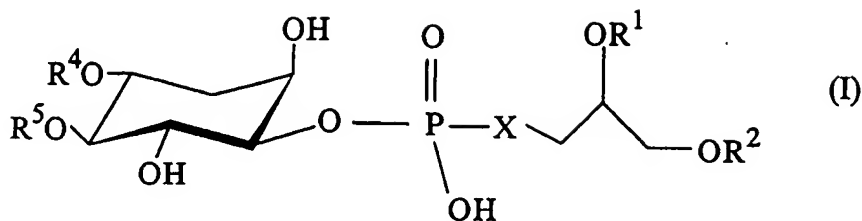
cycloalkyl, (C<sub>2</sub>-C<sub>22</sub>) alkenyl, (C<sub>5</sub>-C<sub>8</sub>) cycloalkenyl, (C<sub>7</sub>-C<sub>32</sub>) aralkyl, (C<sub>7</sub>-C<sub>32</sub>) alkylaryl, (C<sub>9</sub>-C<sub>32</sub>) aralkenyl or (C<sub>9</sub>-C<sub>32</sub>) alkenylaryl, with the proviso that when X is O, R<sup>3</sup> is not [(C<sub>16</sub>)] (C<sub>15</sub>) alkyl; R<sup>4</sup> and R<sup>5</sup> are individually hydrogen or a phosphate group; or when R<sup>4</sup> or R<sup>5</sup> is not hydrogen, a pharmaceutically acceptable salt thereof; and



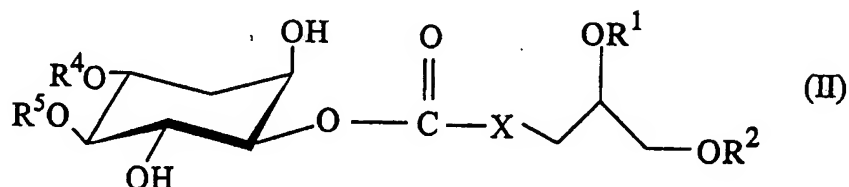
wherein X is O or CH<sub>2</sub>; R<sup>1</sup> and R<sup>2</sup> are individually, (C<sub>1</sub>-C<sub>25</sub>) alkyl, (C<sub>6</sub>-C<sub>10</sub>) aryl, (C<sub>3</sub>-C<sub>8</sub>) cycloalkyl, (C<sub>2</sub>-C<sub>22</sub>) alkenyl, (C<sub>5</sub>-C<sub>8</sub>) cycloalkenyl, (C<sub>7</sub>-C<sub>32</sub>) aralkyl, (C<sub>7</sub>-C<sub>32</sub>) alkylaryl, (C<sub>9</sub>-C<sub>32</sub>) aralkenyl, (C<sub>9</sub>-C<sub>32</sub>) alkenylaryl or C(O)R<sup>3</sup>; and R<sup>3</sup> is (C<sub>1</sub>-C<sub>25</sub>) alkyl, (C<sub>6</sub>-C<sub>10</sub>) aryl, (C<sub>3</sub>-C<sub>8</sub>) cycloalkyl, (C<sub>2</sub>-C<sub>22</sub>) alkenyl, (C<sub>5</sub>-C<sub>8</sub>) cycloalkenyl, (C<sub>7</sub>-C<sub>32</sub>) aralkyl, (C<sub>7</sub>-C<sub>32</sub>) alkylaryl, (C<sub>9</sub>-C<sub>32</sub>) aralkenyl or (C<sub>9</sub>-C<sub>32</sub>) alkenylaryl; R<sup>4</sup> and R<sup>5</sup> are individually hydrogen or a phosphate group; or when R<sup>4</sup> or R<sup>5</sup> is not hydrogen, a pharmaceutically acceptable salt thereof.

**Pending paragraph beginning on Page 5, line 12:**

It is a more specific object of the invention to treat cancer by the administration of at least one compound of the formulae (I) or (II):



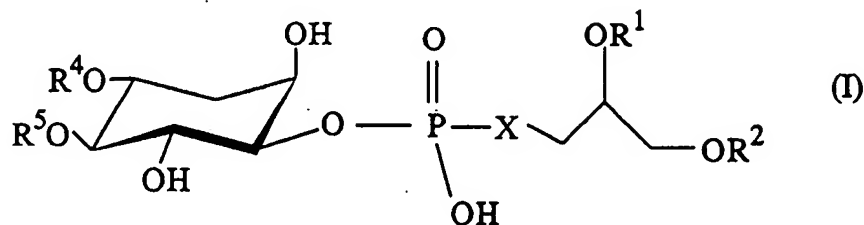
wherein X is O or CH<sub>2</sub>; R<sup>1</sup> and R<sup>2</sup> are individually, (C<sub>1</sub>-C<sub>25</sub>) alkyl, (C<sub>6</sub>-C<sub>10</sub>) aryl, (C<sub>3</sub>-C<sub>8</sub>) cycloalkyl, (C<sub>2</sub>-C<sub>22</sub>) alkenyl, (C<sub>5</sub>-C<sub>8</sub>) cycloalkenyl, (C<sub>7</sub>-C<sub>32</sub>) aralkyl, (C<sub>7</sub>-C<sub>32</sub>) alkylaryl, (C<sub>9</sub>-C<sub>32</sub>) aralkenyl, (C<sub>9</sub>-C<sub>32</sub>) alkenylaryl or C(O)R<sup>3</sup>; and R<sup>3</sup> is (C<sub>1</sub>-C<sub>25</sub>) alkyl, (C<sub>6</sub>-C<sub>10</sub>) aryl, (C<sub>3</sub>-C<sub>8</sub>) cycloalkyl, (C<sub>2</sub>-C<sub>22</sub>) alkenyl, (C<sub>5</sub>-C<sub>8</sub>) cycloalkenyl, (C<sub>7</sub>-C<sub>32</sub>) aralkyl, (C<sub>7</sub>-C<sub>32</sub>) alkylaryl, (C<sub>9</sub>-C<sub>32</sub>) aralkenyl or (C<sub>9</sub>-C<sub>32</sub>) alkenylaryl, with the proviso that when X is O, R<sup>3</sup> is not [(C<sub>16</sub>)] (C<sub>15</sub>) alkyl; R<sup>4</sup> and R<sup>5</sup> are individually hydrogen or a phosphate group; or when R<sup>4</sup> or R<sup>5</sup> is not hydrogen, a pharmaceutically acceptable salt thereof; and



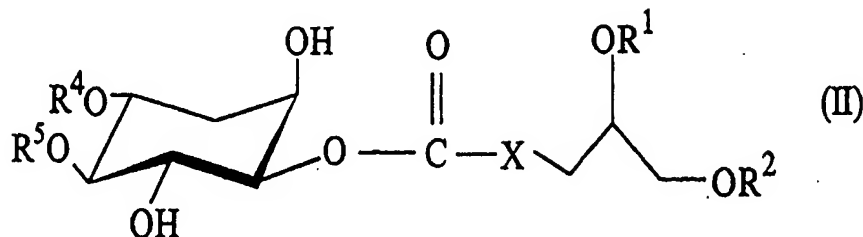
wherein X is O or CH<sub>2</sub>; R<sup>1</sup> and R<sup>2</sup> are individually, (C<sub>1</sub>-C<sub>25</sub>) alkyl, (C<sub>6</sub>-C<sub>10</sub>) aryl, (C<sub>3</sub>-C<sub>8</sub>) cycloalkyl, (C<sub>2</sub>-C<sub>22</sub>) alkenyl, (C<sub>5</sub>-C<sub>8</sub>) cycloalkenyl, (C<sub>7</sub>-C<sub>32</sub>) aralkyl, (C<sub>7</sub>-C<sub>32</sub>) alkylaryl, (C<sub>9</sub>-C<sub>32</sub>) aralkenyl, (C<sub>9</sub>-C<sub>32</sub>) alkenylaryl or C(O)R<sup>3</sup>; and R<sup>3</sup> is (C<sub>1</sub>-C<sub>25</sub>) alkyl, (C<sub>6</sub>-C<sub>10</sub>) aryl, (C<sub>3</sub>-C<sub>8</sub>) cycloalkyl, (C<sub>2</sub>-C<sub>22</sub>) alkenyl, (C<sub>5</sub>-C<sub>8</sub>) cycloalkenyl, (C<sub>7</sub>-C<sub>32</sub>) aralkyl, (C<sub>7</sub>-C<sub>32</sub>) alkylaryl, (C<sub>9</sub>-C<sub>32</sub>) aralkenyl or (C<sub>9</sub>-C<sub>32</sub>) alkenylaryl; R<sup>4</sup> and R<sup>5</sup> are individually hydrogen or a phosphate group; or when R<sup>4</sup> or R<sup>5</sup> is not hydrogen, a pharmaceutically acceptable salt thereof.

**Pending paragraph beginning on Page 7, line 4:**

It is a more specific object of the invention to provide pharmaceutical compositions that comprise at least one compound having the formulae (I) or (II):



wherein X is O or  $CH_2$ ;  $R^1$  and  $R^2$  are individually,  $(C_1-C_{25})$  alkyl,  $(C_6-C_{10})$  aryl,  $(C_3-C_8)$  cycloalkyl,  $(C_2-C_{22})$  alkenyl,  $(C_5-C_8)$  cycloalkenyl,  $(C_7-C_{32})$  aralkyl,  $(C_7-C_{32})$  alkylaryl,  $(C_9-C_{32})$  aralkenyl,  $(C_9-C_{32})$  alkenylaryl or  $C(O)R^3$ ; and  $R^3$  is  $(C_1-C_{25})$  alkyl,  $(C_6-C_{10})$  aryl,  $(C_3-C_8)$  cycloalkyl,  $(C_2-C_{22})$  alkenyl,  $(C_5-C_8)$  cycloalkenyl,  $(C_7-C_{32})$  aralkyl,  $(C_7-C_{32})$  alkylaryl,  $(C_9-C_{32})$  aralkenyl or  $(C_9-C_{32})$  alkenylaryl, with the proviso that when X is O,  $R^3$  is not  $[(C_{16})]$   $(C_{15})$  alkyl;  $R^4$  and  $R^5$  are individually hydrogen or a phosphate group; or when  $R^4$  or  $R^5$  is not hydrogen, a pharmaceutically acceptable salt thereof; or

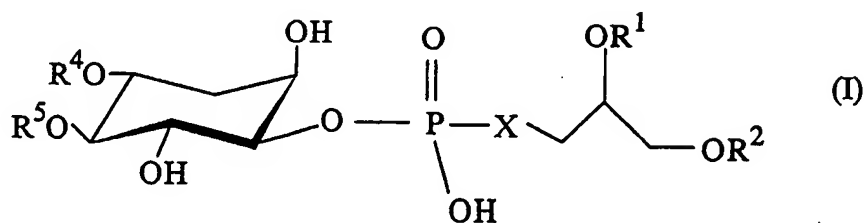


wherein X is O or  $CH_2$ ;  $R^1$  and  $R^2$  are individually,  $(C_{19}-C_{25})$  alkyl,  $(C_6-C_{10})$  aryl,  $(C_3-C_8)$  cycloalkyl,  $(C_2-C_{22})$  alkenyl,  $(C_5-C_8)$  cycloalkenyl,  $(C_7-C_{32})$  aralkyl,  $(C_7-C_{32})$  alkylaryl,  $(C_9-C_{32})$  aralkenyl,  $(C_9-C_{32})$  alkenylaryl or  $C(O)R^3$ ; and  $R^3$  is  $(C_1-C_{25})$  alkyl,  $(C_6-C_{10})$  aryl,  $(C_3-C_8)$

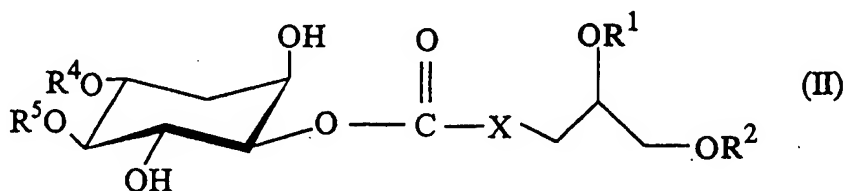
cycloalkyl, (C<sub>2</sub>-C<sub>22</sub>) alkenyl, (C<sub>5</sub>-C<sub>8</sub>) cycloalkenyl, (C<sub>7</sub>-C<sub>32</sub>) aralkyl, (C<sub>7</sub>-C<sub>32</sub>) alkylaryl, (C<sub>9</sub>-C<sub>32</sub>) aralkenyl or (C<sub>9</sub>-C<sub>32</sub>) alkenylaryl; R<sup>4</sup> and R<sup>5</sup> are individually hydrogen or a phosphate group; or when R<sup>4</sup> or R<sup>5</sup> is not hydrogen, a pharmaceutically acceptable salt thereof; which inhibit the phosphatidylinositol signaling pathway and thereby inhibit cell proliferation and/or differentiation and/or promote apoptosis.

**Pending paragraph beginning on Page 9, line 1:**

It is an even more specific object of the invention to provide novel therapies that result in the inhibition of cell proliferation and/or differentiation and/or promotion of cell apoptosis by the administration of a compound having formulae (I) or (II):



wherein X is O or CH<sub>2</sub>; R<sup>1</sup> and R<sup>2</sup> are individually, (C<sub>1</sub>-C<sub>25</sub>) alkyl, (C<sub>6</sub>-C<sub>10</sub>) aryl, (C<sub>3</sub>-C<sub>8</sub>) cycloalkyl, (C<sub>2</sub>-C<sub>22</sub>) alkenyl, (C<sub>5</sub>-C<sub>8</sub>) cycloalkenyl, (C<sub>7</sub>-C<sub>32</sub>) aralkyl, (C<sub>7</sub>-C<sub>32</sub>) alkylaryl, (C<sub>9</sub>-C<sub>32</sub>)

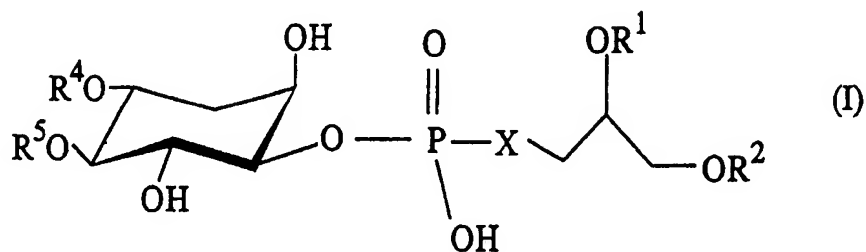


aralkenyl, (C<sub>9</sub>-C<sub>32</sub>) alkenylaryl or C(O)R<sup>3</sup>; and R<sup>3</sup> is (C<sub>1</sub>-C<sub>25</sub>) alkyl, (C<sub>6</sub>-C<sub>10</sub>) aryl, (C<sub>3</sub>-C<sub>8</sub>) cycloalkyl, (C<sub>2</sub>-C<sub>22</sub>) alkenyl, (C<sub>5</sub>-C<sub>8</sub>) cycloalkenyl, (C<sub>7</sub>-C<sub>32</sub>) aralkyl, (C<sub>7</sub>-C<sub>32</sub>) alkylaryl, (C<sub>9</sub>-C<sub>32</sub>)

aralkenyl or (C<sub>9</sub>-C<sub>32</sub>) alkenylaryl, with the proviso that when X is O, R<sup>3</sup> is not [(C<sub>16</sub>)] (C<sub>15</sub>) alkyl; R<sup>4</sup> and R<sup>5</sup> are individually hydrogen or a phosphate group; or when R<sup>4</sup> or R<sup>5</sup> is not hydrogen, a pharmaceutically acceptable salt thereof; or wherein X is O or CH<sub>2</sub>; R<sup>1</sup> and R<sup>2</sup> are individually, (C<sub>1</sub>-C<sub>25</sub>) alkyl, (C<sub>6</sub>-C<sub>10</sub>) aryl, (C<sub>3</sub>-C<sub>8</sub>) cycloalkyl, (C<sub>2</sub>-C<sub>22</sub>) alkenyl, (C<sub>5</sub>-C<sub>8</sub>) cycloalkenyl, (C<sub>7</sub>-C<sub>32</sub>) aralkyl, (C<sub>7</sub>-C<sub>32</sub>) alkylaryl, (C<sub>9</sub>-C<sub>32</sub>) aralkenyl, (C<sub>9</sub>-C<sub>32</sub>) alkenylaryl or C(O)R<sup>3</sup>; and R<sup>3</sup> is (C<sub>1</sub>-C<sub>25</sub>) alkyl, (C<sub>6</sub>-C<sub>10</sub>) aryl, (C<sub>3</sub>-C<sub>8</sub>) cycloalkyl, (C<sub>2</sub>-C<sub>22</sub>) alkenyl, (C<sub>5</sub>-C<sub>8</sub>) cycloalkenyl, (C<sub>7</sub>-C<sub>32</sub>) aralkyl, (C<sub>7</sub>-C<sub>32</sub>) alkylaryl, (C<sub>9</sub>-C<sub>32</sub>) aralkenyl or (C<sub>9</sub>-C<sub>32</sub>) alkenylaryl; R<sup>4</sup> and R<sup>5</sup> are individually hydrogen or a phosphate group; or when R<sup>4</sup> or R<sup>5</sup> is not hydrogen, a pharmaceutically acceptable salt thereof.

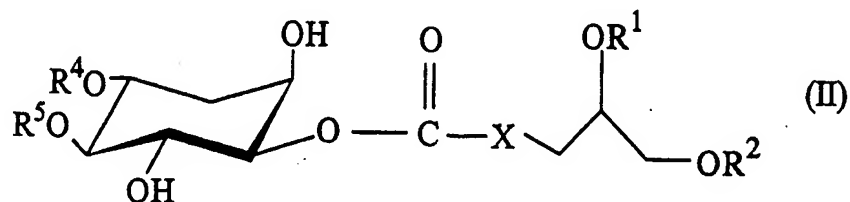
**Pending paragraph beginning on Page 39, line 1:**

The design of such compounds is discussed above. In an especially preferred embodiment, these compounds will comprise 3-deoxy-D-*myo*-inositol analogs having the formula (I):



wherein X is O or CH<sub>2</sub>; R<sup>1</sup> and R<sup>2</sup> are individually, (C<sub>1</sub>-C<sub>25</sub>) alkyl, (C<sub>6</sub>-C<sub>10</sub>) aryl, (C<sub>3</sub>-C<sub>8</sub>) cycloalkyl, (C<sub>2</sub>-C<sub>22</sub>) alkenyl, (C<sub>5</sub>-C<sub>8</sub>) cycloalkenyl, (C<sub>7</sub>-C<sub>32</sub>) aralkyl, (C<sub>7</sub>-C<sub>32</sub>) alkylaryl, (C<sub>9</sub>-C<sub>32</sub>) aralkenyl, (C<sub>9</sub>-C<sub>32</sub>) alkenylaryl or C(O)R<sup>3</sup>; and R<sup>3</sup> is (C<sub>1</sub>-C<sub>25</sub>) alkyl, (C<sub>6</sub>-C<sub>10</sub>) aryl, (C<sub>3</sub>-C<sub>8</sub>) cycloalkyl, (C<sub>2</sub>-C<sub>22</sub>) alkenyl, (C<sub>5</sub>-C<sub>8</sub>) cycloalkenyl, (C<sub>7</sub>-C<sub>32</sub>) aralkyl, (C<sub>7</sub>-C<sub>32</sub>) alkylaryl, (C<sub>9</sub>-C<sub>32</sub>)

aralkenyl or (C<sub>9</sub>-C<sub>32</sub>) alkenylaryl, with the proviso that when X is O, R<sup>3</sup> is not [(C<sub>16</sub>)] (C<sub>15</sub>) alkyl; R<sup>4</sup> and R<sup>5</sup> are individually hydrogen or a phosphate group; or when R<sup>4</sup> or R<sup>5</sup> is not hydrogen, a pharmaceutically acceptable salt thereof; or will comprise 3-deoxy-D-*myo*-inositol analogs having the formula (II):



wherein X is O or CH<sub>2</sub>; R<sup>1</sup> and R<sup>2</sup> are individually, (C<sub>1</sub>-C<sub>25</sub>) alkyl, (C<sub>6</sub>-C<sub>10</sub>) aryl, (C<sub>3</sub>-C<sub>8</sub>) cycloalkyl, (C<sub>2</sub>-C<sub>22</sub>) alkenyl, (C<sub>5</sub>-C<sub>8</sub>) cycloalkenyl, (C<sub>7</sub>-C<sub>32</sub>) aralkyl, (C<sub>7</sub>-C<sub>32</sub>) alkylaryl, (C<sub>9</sub>-C<sub>32</sub>) aralkenyl, (C<sub>9</sub>-C<sub>32</sub>) alkenylaryl or C(O)R<sup>3</sup>; and R<sup>3</sup> is (C<sub>1</sub>-C<sub>25</sub>) alkyl, (C<sub>6</sub>-C<sub>10</sub>) aryl, (C<sub>3</sub>-C<sub>8</sub>) cycloalkyl, (C<sub>2</sub>-C<sub>22</sub>) alkenyl, (C<sub>5</sub>-C<sub>8</sub>) cycloalkenyl, (C<sub>7</sub>-C<sub>32</sub>) aralkyl, (C<sub>7</sub>-C<sub>32</sub>) alkylaryl, (C<sub>9</sub>-C<sub>32</sub>) aralkenyl or (C<sub>9</sub>-C<sub>32</sub>) alkenylaryl; R<sup>4</sup> and R<sup>5</sup> are individually hydrogen or a phosphate group; or when R<sup>4</sup> or R<sup>5</sup> is not hydrogen, a pharmaceutically acceptable salt thereof.